200800326

No.

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

University of Georgia Research Foundation, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'AGS2020'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this ninth day of December, in the year two thousand and eight.*

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
University of Georgia Research Foundation, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
GA 96693-4E16

3. VARIETY NAME
AGS2020

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
627 Boyd Graduate Studies Research Center
Athens, GA 30602-7411

5. TELEPHONE *(include area code)*
(706) 542-1404

6. FAX *(include area code)*
(706) 542-3837

FOR OFFICIAL USE ONLY

PVPO NUMBER
#200800326

FILING DATE
July 18th, 2008

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
Georgia

9. DATE OF INCORPORATION
November 17, 1978

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

Director
University of Georgia Research Foundation, Inc.
627 Boyd Graduate Studies Research Center
Athens, GA 30602-7411

FEES RECEIVED
FILING AND EXAMINATION FEES: $ 4382.00 DATE 7/11/2008
CERTIFICATION FEE: $ 768.00 DATE 8/15/08

11. TELEPHONE (Include area code)
(706) 542-1404

12. FAX (Include area code)
(706) 542-3837

13. E-MAIL
tco@uga.edu

14. CROP KIND *(Common Name)*
Wheat (common)

16. FAMILY NAME *(Botanical)*
Triticum aestivum

15. GENUS AND SPECIES NAME OF CROP
Gramineae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
[ ] YES [X] NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? ***(OPTIONAL)***
[ ] YES [X] NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED. (Follow instructions on reverse)
- a. [X] Exhibit A. Origin and Breeding History of the Variety
- b. [X] Exhibit B. Statement of Distinctness
- c. [X] Exhibit C. Objective Description of Variety
- d. [X] Exhibit D. Additional Description of the Variety *(Optional)*
- e. [X] Exhibit E. Statement of the Basis of the Owner's Ownership
- f. [ ] Exhibit F. Declaration Regarding Deposit
- g. [ ] Voucher Sample *(3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
- h. [X] Filing and Examination Fee ($4,382), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
[ ] YES *(If "yes", answer items 21 and 22 below)*
[X] NO *(If "no", go to item 23)*
[ ] UNDECIDED

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
[ ] YES [ ] NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
[ ] YES [ ] NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.
[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
[ ] YES [X] NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
[ ] YES [X] NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
NAME *(Please print or type)* Sohail Malik		NAME *(Please print or type)*	
CAPACITY OR TITLE Chief Licensing Officer	DATE 7-3-08	CAPACITY OR TITLE	DATE

ST-470 (02-06) designed by the Plant Variety Protection Office using Word 2003.

(See reverse for instructions and information collection burden statement)

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GENERAL INSTRUCTIONS: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for $4,382 ($518 filing fee and $3,864 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice).* **NEW:** With the application for a seed reproduced variety **or by direct deposit soon after filing**, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to **reproduce** the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of $768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

Plant Variety Protection Office
Telephone: (301) 504-5518 **FAX:** (301) 504-5291
General E-mail: PVPOmail@usda.gov
Homepage: http://www.ams.usda.gov/science/pvpo/PVPindex.htm

SPECIFIC INSTRUCTIONS:
To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and **provide evidence** that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. http://www.ams.usda.gov/lsg/seed.htm.

ITEM

19a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

N/A

23. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

N/A

24. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

N/A

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Exhibit A

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Origin and Breeding History of AGS 2020

AGS 2020 (96693-4E16) winter wheat (Triticum aestivum L.), was developed and released by the Georgia Agricultural Experiment Stations in 2007. AGS 2020 was derived from the cross, GA 88151 / Hickory // AGS 2000. GA 88151 is Hunter // FengKang 7 / GA-Gore.

The cross of AGS 2020 was made in the fall of 1996. The F1 was grown during the fall of 1996. The population was advanced from the F2 through F5 generations using the pedigree method of breeding with individual spikes selected for resistance to leaf rust (caused by *Puccinia recondita* (Roberge ex Desmaz), stripe rust (caused by *Puccinia striiformis* Westend), powdery mildew (caused by *Erysiphe graminis* DC. f. sp. *tritici* Em. Marchal), and septoria nodorum blotch (caused by Stagonospora nodorum (Berk) Castellani & E.G. Germano). Spikes were harvested, threshed individually and planted in single 1 meter headrows and were advanced to the next generation during the F2:3-, F3:4-, and F4:5-derived lines at Plains, GA. AGS 2020 is the F5:derived head row selected and advanced to Breeder Seed which was produced in the F10 generation.

AGS 2020 was evaluated as GA96693-4E16 for agronomic performance in nursery plots in 2004 and 2005, GA state trials at five locations from 2005 to 2006, and in the Uniform Southern Soft Red Winter Wheat Nursery at about 30 locations in 2006.

An increase strip of AGS 2020 was planted in 2005 from a small increase plot and was rogued thoroughly for aberrant types. Seeds from this increase strip was planted in an increase block (2 acres) of AGS 2020 in 2006 at the Foundation Seed Farm and rogued to remove variants. Seed from this large block was used for Breeder Seed for AGS 2020 in 2007. AGS 2020 has been observed for 3 generations of reproduction and during seed increase period and is stable and uniform. The variant consists of 1 beardless head per 500 heads, 1 bronze head per 3,500 heads, 1 taller head per 2,500 heads, 1 taller late head per 2,500 heads and 1 taller awnless head per 2,500 heads.

This Breeder seed of AGS 2020 was provided to the Georgia Seed Development Commission and will be the source of future seed multiplications. Breeder seed of AGS 2020 will be maintained by the Georgia Agricultural Experiment Station, University of Georgia-Griffin Campus, Griffin, GA 30223-1797.

Exhibit B

#200800326

Novelty Statement

AGS 2020 is a soft red winter wheat, awned, and white chaffed. AGS 2020 is most similar in appearance to 'AGS 2000'; however, AGS 2020 does not have the 1BL.1RS rye translocation whereas AGS 2000 does have the 1BL.1RS rye translocation.

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1RS STATUS

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Lincoln
NE
Graybosch

1	AGS 2000	1BL.1RS
2	USG 3209	1BL.1RS
3	Pioneer Brand 26R61	1BL.1RS
4	McCormick	1AL.1RS
5	LA95135D54-2-3	non-1RS
6	VA02W-555	1BL.1RS
7	VA02W-370	non-1RS
8	GA96693-4E16	non-1RS
9	GA951231-4E25	non-1RS
10	GA951231-4E26	non-1RS
11	GA961171-4E21	non-1RS
12	AR96077-10-1	non-1RS
13	ARTX5406	non-1RS
14	Z00-3538	1BL.1RS
15	Z00-3554	non-1RS
16	GX02-138	non-1RS
17	VA01W-205	non-1RS
18	VA02W-713	? Unclear
19	P981233A1-10-12-1-1-4	1BL.1RS
20	P992060G1-1-9	non-1RS
21	P992133A2-1-2	non-1RS
22	TN601	non-1RS
23	TN604	non-1RS
24	NC02-1957	non-1RS
25	NC02-4518	non-1RS
26	MD00-72-5064	non-1RS
27	MD99-483-5158	non-1RS
28	LA98094BUB-58-5	non-1RS
29	LA9554-D68-3-2	non-1RS
30	FL91226A-X4	non-1RS
31	FL98174-D44	non-1RS
32	FL98031-D15-E4	non-1RS
33	SC013787	1BL.1RS
34	SC110329	non-1RS
35	G20915	non-1RS
36	G28146	non-1RS
37	G30623	non-1RS
38	G30204	non-1RS
39	B010973	non-1RS
40	B011260	non-1RS
41	B02-8486	non-1RS
42	B02-8483	non-1RS
43	APCK M00-3904-9	1BL.1RS
44	APCK M02-2152	non-1RS
45	APCK B02-8443	non-1RS

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Wheat (*Triticum* spp.)

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME
University of Georgia Research Foundation	GA96693-4E16	AGS 2020

ADDRESS *(Street and No. or RD No., City, State, Zip Code and Country)*
627 Boyd Graduate Studies Research Center
Athens, GA 30602-7411

FOR OFFICIAL USE ONLY

PVPO NUMBER
#200800326

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., [0][9][9] or [0][9]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____. Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

[1]
1 = Common
2 = Durum
3 = Club
4 = Other (Specify) _____

2. VERNALIZATION:

[2]
1 = Spring
2 = Winter
3 = Other (Specify) _____

3. COLEOPTILE ANTHOCYANIN:

[1] 1 = Absent 2 = Present

4. JUVENILE PLANT GROWTH:

[2] 1 = Prostrate 2 = Semi-Erect 3 = Erect

5. PLANT COLOR: (boot stage)

[3]
1 = Yellow-Green
2 = Green
3 = Blue-Green

6. FLAG LEAF: (boot stage)

[2] 1 = Erect 2 = Recurved
[1] 1 = Not Twisted 2 = Twisted
[2] 1 = Wax Absent 2 = Wax Present

7. EAR EMERGENCE:

[ ][9][2] Number of Days (Average)
[0][3] Number of Days Earlier Than * AGS 2000
Same As *
[ ][ ] Number of Days Later Than *

**Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial*

8. ANTHER COLOR:

[1] 1 = Yellow 2 = Purple

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9. PLANT HEIGHT: (from soil to top of head, excluding awns)

[1][0][0] cm (Average)

[ ][ ] cm Taller Than _____ *

Same As _____ *

[0][3] cm Shorter Than AGS 2000 *

10. STEM:

A. ANTHOCYANIN

[1] 1 = Absent 2 = Present

B. WAXY BLOOM

[2] 1 = Absent 2 = Present

C. HAIRINESS (last internode of rachis)

[1] 1 = Absent 2 = Present

D. INTERNODE

[1] 1 = Hollow 2 = Semi-Solid 3 = Solid

[3] Number of Nodes

E. PEDUNCLE

[1] 1 = Erect 2 = Recurved 3 = Semi-Erect

[1][9] cm Length

F. AURICLE

[1] Anthocyanin: 1 = Absent 2 = Present

[1] Hair: 1 = Absent 2 = Present

11. HEAD: (At Maturity)

A. DENSITY

[1] 1 = Lax
2 = Middense (Laxidense)
3 = Dense

B. SHAPE

[2] 1 = Tapering
2 = Strap
3 = Clavate
4 = Other (Specify) _____

C. CURVATURE

[1] 1 = Erect
2 = Inclined
3 = Recurved

D. AWNEDNESS

[4] 1 = Awnless
2 = Apically Awnletted
3 = Awnletted
4 = Awned

12. GLUMES: (At Maturity)

A. COLOR

[1] 1 = White
2 = Tan
3 = Other (Specify) _____

B. SHOULDER

[2] 1 = Wanting 2 = Oblique
3 = Rounded 4 = Square
5 = Elevated 6 = Apiculate
7 = Other (Specify) _____

C. SHOULDER WIDTH

[1] 1 = Narrow
2 = Medium
3 = Wide

D. BEAK

[3] 1 = Obtuse
2 = Acute
3 = Acuminate

E. BEAK WIDTH

[1] 1 = Narrow
2 = Medium
3 = Wide

F. GLUME LENGTH

[3] 1 = Short (ca. 7 mm)
2 = Medium (ca. 8 mm)
3 = Long (ca. 9 mm)

G. WIDTH

[2] 1 = Narrow (ca. 3 mm)
2 = Medium (ca. 3.5 mm)
3 = Wide (ca. 4 mm)

H. PUBESCENCE

[1] 1 = Not Present
2 = Present

13. SEED:

A. SHAPE

[1] 1 = Ovate
2 = Oval
3 = Elliptical

B. CHEEK

[1] 1 = Rounded
2 = Angular

C. BRUSH

[1] 1 = Short
2 = Medium
3 = Long

[1] 1 = Not Collared
2 = Collared

D. CREASE

[1] 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

[1] 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. COLOR

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[3] 1 = White
2 = Amber
3 = Red
4 = Other (Specify) _____

F. TEXTURE

[2] 1 = Hard
2 = Soft
3 = Other (Specify) _____

G. PHENOL REACTION (See Instructions)

[4] 1 = Ivory
2 = Fawn
3 = Light Brown
4 = Dark Brown
5 = Black

H. SEED WEIGHT

[4][4] g/1000 Seed (whole number only)

I. GERM SIZE

[3] 1 = Small
2 = Midsize
3 = Large

14. DISEASE: PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

(0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

[2]	Stem Rust (*Puccinia graminis* f. sp. *tritici*) RKQQ, TPMK, QTHJ, TTKS	[2]	Leaf Rust (*Puccinia recondita* f. sp. *tritici*) SBDB, MFGJ, KDBG, MLDS, TNRJ, TMGJ, MFDS, THBJ
[2]	Stripe Rust (*Puccinia striiformis*)	[ ]	Loose Smut (*Ustilago tritici*)
[ ]	Tan Spot (*Pyrenophora tritici-repentis*)	[ ]	Flag Smut (*Urocystis agropyri*)
[ ]	Halo Spot (*Selenophoma donacis*)	[ ]	Common Bunt (*Tilletia tritici* or T. *laevis*)
[ ]	*Septoria nodorum* (Glume Blotch)	[ ]	Dwarf Bunt (*Tilletia controversa*)
[ ]	*Septoria avenae* (Speckled Leaf Disease)	[ ]	Karnal Bunt (*Tilletia indica*)
[ ]	*Septoria tritici* (Speckled Leaf Blotch)	[2]	Powdery Mildew (*Erysiphe graminis* f. sp. *tritici*)
[1]	Scab (*Fusarium* spp.)	[ ]	"Snow Molds"
[ ]	"Black Point" (Kernel Smudge)	[ ]	Common Root Rot (*Fusarium*, *Cochliobolus* and *Bipolaris* spp.)
[4]	Barley Yellow Dwarf Virus (BYDV)	[ ]	Rhizoctonia Root Rot (*Rhizoctonia solani*)
[4]	Soilborne Mosaic Virus (SBMV)	[ ]	Black Chaff (*Xanthomonas campestris* pv. *translucens*).
[ ]	Wheat Yellow (Spindle Streak) Mosaic Virus	[ ]	Bacterial Leaf Blight (*Pseudomonas syringae* pv. *syringae*)
[ ]	Wheat Streak Mosaic Virus (WSMV)	[ ]	Other (Specify) _____
[ ]	Other (Specify) _____	[ ]	Other (Specify) _____
[ ]	Other (Specify) _____	[ ]	Other (Specify) _____
[ ]	Other (Specify) _____	[ ]	Other (Specify) _____

15. INSECT: (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

[1]	Hessian Fly (*Mayetiola destructor*) B, C, D, L	[ ]	Other (Specify) _____
[ ]	Stem Sawfly (*Cephus* spp.)	[ ]	Other (Specify) _____
[ ]	Cereal Leaf Beetle (*Oulema melanopa*)	[ ]	Other (Specify) _____

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15. INSECT: (continued) (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE SPECIFY BIOTYPE (Where Needed)

- ☐ Russian Aphid (*Diuraphis noxia*)
- ☐ Greenbug (*Schizaphis graminum*)
- ☐ Aphids
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

#20080026

Exhibit D

Additional Description of AGS 2020

AGS 2020 is a common soft red winter wheat, *Triticum aestivum* L. bred and developed by the University of Georgia, Georgia Agricultural Experiment Stations and developed by Jerry W. Johnson. AGS 2020 is a medium maturing, high yielding, excellent test weight, awned wheat with resistance to current races of leaf rust, Puccinia recondita (Roberge ex Desmaz), and stripe rust, Puccinia striiformis Westend and susceptible to biotype B, C, D, and L of Hessian flies, (Mayetiola destructor (Say) in Georgia. AGS 2020 is in Georgia resistant to leaf rust, powdery mildew, and stripe rust. It is resistant to leaf rust races, SBDB, MFGJ, KDBG, MLDS, TNRJ, TMGJ, MFDS,THBJ; stem rust races, RKQQ, TPMK, and QTHJ.

Milling and baking quality characteristics of AGS 2020 are rated as excellent for soft red winter wheat use by the USDA-Soft Wheat Quality Laboratory, Wooster, OH. Information on the milling and baking quality characteristics is also included in a quality report. Additional information is presented in attachment to the Exhibit.

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YIELD (bu/acre)

#200800326

		ENTRY MEANS ALL LOCATIONS	rank	ENTRY MEANS IN-REGION [a]	rank	ENTRY MEANS CV <10% [b]	rank
1	AGS 2000	81.7	9	83.8	6	79.8	17
2	USG 3209	78.7	17	80.1	15	79.2	19
3	Pioneer Brand 26R61	76.0	28	76.3	27	75.3	31
4	McCormick	72.6	39	72.6	40	70.9	42
5	LA95135D54-2-3	78.5	20	79.4	19	79.8	16
6	VA02W-555	82.3	8	82.5	9	84.8	6
7	VA02W-370	82.8	7	83.6	7	85.6	4
8	GA96693-4E16	83.5	2	85.0	1	85.2	5
9	GA951231-4E25	83.0	6	84.0	5	86.9	1
10	GA951231-4E26	83.5	3	84.4	3	85.9	3
11	GA961171-4E21	73.6	34	74.4	35	77.9	23
12	AR96077-10-1	80.3	11	81.0	13	80.5	14
13	ARTX5406	78.1	21	79.9	17	78.4	21
14	Z00-3538	77.7	22	75.6	30	75.3	32
15	Z00-3554	84.8	1	84.5	2	83.3	9
16	GX02-138	83.4	4	83.2	8	83.3	7
17	VA01W-205	79.8	13	81.5	12	83.1	11
18	VA02W-713	81.5	10	82.1	10	83.3	8
19	P981233A1-10-12-1-1-4	64.2	45	65.4	45	66.7	45
20	P992060G1-1-9	72.8	38	72.0	42	75.3	33
21	P992133A2-1-2	73.0	36	72.8	39	77.0	27
22	TN601	73.5	35	73.4	37	71.3	41
23	TN604	79.4	15	79.8	18	77.6	24
24	NC02-1957	73.7	33	74.1	36	73.9	36
25	NC02-4518	76.5	27	78.0	25	77.5	26
26	MD00-72-5064	77.0	25	78.1	24	79.5	18
27	MD99-483-5158	77.4	23	79.2	20	78.4	22
28	LA98094BUB-58-5	74.1	32	75.7	29	74.4	34
29	LA9554-D68-3-2	72.9	37	74.7	34	73.3	39
30	FL91226A-X4	71.2	42	73.2	38	72.8	40
31	FL98174-D44	68.5	44	69.1	44	70.2	43
32	FL98031-D15-E4	70.8	43	72.4	41	73.3	38
33	SC013787	72.3	40	74.9	32	73.7	37
34	SC110329	75.6	29	77.0	26	75.9	30
35	G20915	78.6	18	79.9	16	80.8	13
36	G28146	75.3	30	75.6	31	76.2	29
37	G30623	74.6	31	74.8	33	74.1	35
38	G30204	77.1	24	78.6	21	77.6	25
39	B010973	71.2	41	71.0	43	69.5	44
40	B011260	79.5	14	81.5	11	83.2	10
41	B02-8486	83.0	5	84.1	4	86.4	2
42	B02-8483	78.6	19	78.5	22	78.5	20
43	APCK M00-3904-9	78.8	16	78.5	23	79.9	15
44	APCK M02-2152	76.6	26	76.1	28	77.0	28
45	APCK B02-8443	80.1	12	80.8	14	81.1	12
	LOCATION MEANS	77.1		77.8		78.1	
	LSD (.05)						
	CV %						
	REPS						
	Harvest Plot Area (sq.ft.)						

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Seedling reaction of entries of the 2005-2006 Uniform Southern Soft Red Winter Wheat Performance Nursery to selected isolates of Puccinia triticina (D.L. Long, USDA-ARS, Cereal Disease Laboratory, 1551 Lindig Street, St. Paul, MN 55108) CDL website: www.ars.usda.gov/mwa/cdl

No.	Cultivar or Line	Reactions produced by NA race*									Postulated genes***
		SBDB	MFGJ	KDBG	TCRK	MLDS	TNRJ	TMGJ	MFDS	THBJ	
1	AGS 2000	;	3	;	3	;1c	;1c	3	;	3	10,26
2	USG 3209	;	3	;	3	;1c	;1c2	3	;	;	11,26
3	Pioneer 26R61	;	3	;	3	;	;1c	3	;1c2	;	11,26
4	McCormick	;	3	3	2c,3	;	3	;1c	3	;	24
5	LA95135D54-2-3	;	;	;	;	;1c	3	3	;	;	2a,9
6	VA02W-555	;	3	;	3	;1c	;1c	3	;	;	11,26
7	VA02W-370	;	3-;	;	3	;	;1c	;1c-3	;1	;	18,+
8	GA96693-AE16	;	;1c	;1c	3	;1c	;1c	;1c	;1c	;	18,26
9	GA951231-4E25	;	3	;	;1c	;1c	;1c	;1c	;	;	11,24,26
10	GA951231-4E26	;1c	31c	;	;1c	;1c	;1c	;1c	;	;	+
11	GA961171-4E21	;	;	;	;-2	;	;	;	;	;	+
12	AR96077-10-1	;	;	;	3	;1c	;1c	;	;	;1c	18,26
13	ARTX5406	;	;3	;	3;	;1c	21c	;1	;	;	+
14	Z00-3538	;	;	;	;1c	;1c	;1c	3;	;	;1c	+
15	Z00-3554	3	3	;	3	3	3	3	3	3	1
16	GX02-138	;1c	;	;	;	;	;1c-3	;1c	;	;1c	+
17	VA01W-205	;	;1c	;	3	;1c	;1c	;	;	;	18,26
18	VA02W-713	;-3	3	;	3	3;	23;	3	;	;1c	11,26
19	P981233A1-10-12-1-1-4	;	3	;	3	3;	;	3	23;	;	11,26
20	P992060G1-1-9	;	;1c	3	;1c2	;1c	;	;1c2	;1c2	2c;	+
21	P992133A2-1-2	;	;1c	3	;	;2c	;	;1c	1c	;1c	2a,24
22	TN601	;	;-3	;1c	3	;	3	3	;1	3	1,2a
23	TN604	;	3-;	;	3	;	3	3	3	3	26
24	NC02-1957	;	;	;	;	;	;	;	;	;	+
25	NC02-4518	:	:	:	:	:	:	:	:	:	+

#20080326

LEAF RUST #200800326

		St. Paul MN Kolmer	Kinston NC Murphy		Warsaw VA Griffey
		% severity / IT	% canopy	0-9	0-9
1	AGS 2000	20 MR-MS	0	0.0	2.0
2	USG 3209	50 MS	65	7.5	6.0
3	Pioneer Brand 26R61	20 R-MR	10	1.5	1.0
4	McCormick	30 S	45	5.5	7.7
5	LA95135D54-2-3	5R/20 MS	0	0.0	1.0
6	VA02W-555	10 R	16	2.0	3.0
7	VA02W-370	20 MR-MS	15	2.0	1.3
8	GA96693-4E16	5 R	0	0.0	1.0
9	GA951231-4E25	5 R	0	0.0	1.3
10	GA951231-4E26	5 R	0	0.0	1.0
11	GA961171-4E21	5 R	0	0.0	1.0
12	AR96077-10-1	60 S	8	1.5	1.7
13	ARTX5406	50 S	9	1.5	1.7
14	Z00-3538	50 S	3	0.5	1.7
15	Z00-3554	50 MS	15	2.5	2.7
16	GX02-138	50 MS-S	0	0.0	1.3
17	VA01W-205	5 MR	2	0.5	1.3
18	VA02W-713	40 MS	45	5.5	5.0
19	P981233A1-10-12-1-1-4	20 R-MR	27	3.0	1.3
20	P992060G1-1-9	30 MS-S	18	2.5	2.0
21	P992133A2-1-2	5 R	5	1.0	1.0
22	TN601	5 M/20 MS	37	4.0	4.3
23	TN604	40 S	63	7.0	5.7
24	NC02-1957	TR	0	0.0	1.3
25	NC02-4518	10 MS	0	0.0	1.0
26	MD00-72-5064	20 MS	22	2.5	3.7
27	MD99-483-5158	10 MR	0	0.0	0.7
28	LA98094BUB-58-5	TR	0	0.0	1.0
29	LA9554-D68-3-2	50 S	0	0.0	1.0
30	FL91226A-X4	-	9	1.5	1.3
31	FL98174-D44	20 MS	0	0.0	1.0
32	FL98031-D15-E4	30 MS	0	0.0	0.7
33	SC013787	50 MR-MS	43	5.0	5.3
34	SC110329	50 S	53	6.0	3.3
35	G20915	30 MS	12	2.0	1.3
36	G28146	40 MS	3	1.0	1.0
37	G30623	60 MS	24	3.0	4.3
38	G30204	60 MS	1	0.5	1.3
39	B010973	20 MR-MS	0	0.0	1.0
40	B011260	5 MR	20	3.0	2.3
41	B02-8486	50 MS	2	0.5	1.7
42	B02-8483	40 MS	8	1.5	2.0
43	APCK M00-3904-9	5 MR	0	0.0	1.0
44	APCK M02-2152	40 S	65	7.5	8.3
45	APCK B02-8443	20 MR-MS	37	4.0	2.0
LOCATION MEANS:			15.0	1.9	2.3
GROWTH STAGE / DATE					

STEM RUST

St. Paul
MN

#200800326

Yue Jin

		Adult	Seedling Reaction						
		Field Reaction	QFCS	MCCF	RKQQ	TPMK	QTHJ	TTTT	TTKS
		% severity / IT	03ND76C	59KS19	99KS76A-1	74MN1409	75ND717C	01MN84A-1-2	04KEN1562/15/06
1	AGS 2000	40 MS/10 R	1	1	2-	2-/S	-	-	S
2	USG 3209	5 R/30 MS-S	;	0/2	2-	1+/S	0	;1	0;
3	Pioneer Brand 26R61	30 R-MR	1	1	2-	2	2	2-	S
4	McCormick	50 R-MR	1	1	1	1/S	2	2-	2
5	LA95135D54-2-3	70 S	2	2	S	S	S/2	S	S
6	VA02W-555	5 R/30 MS	0	;	0	;1	0	S	0;
7	VA02W-370	60 MS-S	2+	23	S	S	0	/S	S
8	GA96693-4E16	60 S/20 R-MR	2	S	0	0	0;	S	2
9	GA951231-4E25	30 MS	;/S	/S	;	S	S	S	S
10	GA951231-4E26	30 MS	;3	;3	;	S	S	S	S
11	GA961171-4E21	50 S	S	S	;3	S	S	S	S
12	AR96077-10-1	100 S	S	S	S	S	S	S	S
13	ARTX5406	100 S	S	S	;3	S	S	S	S
14	Z00-3538	70 S	1/S	1/S	S	1	S/2	;1/S	S
15	Z00-3554	100 S	2/S	2	S	S	S	S/2	S
16	GX02-138	80 S	S	S	S	S	S	S	S
17	VA01W-205	30 MS	;	;	S	23 low IF	0	S	0?
18	VA02W-713	30 MS	1	1/;3	S	S	S/1	S	S
19	P981233A1-10-12-1-1-4	T R-MR	0	0	2/S	2/S	0	2/S	0/2
20	P992060G1-1-9	5 R-MR/50 S	;1	;1	;3	;23	;13	S	S
21	P992133A2-1-2	10 MR-MS	;12	;1	;	;23	;	S/2	S
22	TN601	40 MS	0	0	;/S	;3	0	S	0
23	TN604	10 R-MR	0	0	2	2	0/S	2	0/S
24	NC02-1957	30 MR/60 S	;	0;	2/S	S	;	S	0;
25	NC02-4518	50 MR-MS	;	;	S	S	;	S	;
26	MD00-72-5064	70 S	S/2	S	;1/S	23C	S	S/2	S/2
27	MD99-483-5158	80 S	2+	2+	2	S	S	S	S
28	LA98094BUB-58-5	0, very late	;	0	;	;/S	0	S	0
29	LA9554-D68-3-2	100 S	S	S	S	S	S	S	S
30	FL91226A-X4	60 S	;2	;1	;/;23	;1	;1	S	S
31	FL98174-D44	70 S	;	;	S	/S	S	S	S
32	FL98031-D15-E4	80 S	S	;1	S	S	S	S	S
33	SC013787	50 MR-MS	;/2	;1	0	;12	2	2	S
34	SC110329	30 MS	0	0/2	S low IF	;23	0	S	0
35	G20915	20 MR-MS	2	2	S	2+	S	S	S
36	G28146	40 MS	2	2	2	2	S	S	S
37	G30623	70 MS	2	2	S	S/2	S	S	S
38	G30204	60 MS	;	0;	S low IF	S	0/S	S	S
39	B010973	30 MR-MS	;	;	S	S	0	S	;
40	B011260	0/10 MR	;2	0	2/;/S	S	0	13	S
41	B02-8486	80 S	S	S	S	S/;	S	S	S
42	B02-8483	100 S	S	S	S	S	S	S	S
43	APCK M00-3904-9	40 MR	2	2-	;	2	2	2	S
44	APCK M02-2152	50 MS-S	S	S	S	S	S	S	S
45	APCK B02-8443	60 S	S	S	2/S	S	S	S	S

GROWTH STAGE / DATE July 3

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STRIPE RUST

#20080026

		Plains GA Johnson	Greensburg IN Brown 1-9	Winnsboro LA Harrison %	Pullman WA Chen IT	Pullman WA Chen %
1	AGS 2000	7	1	2	8	90
2	USG 3209	1	3	0	8	80
3	Pioneer Brand 26R61	1	1	0	2	2
4	McCormick		4	0	8	40
5	LA95135D54-2-3	2	1	0	5	30
6	VA02W-555	0	1	0	2	2
7	VA02W-370	1	1	0	8	60
8	GA96693-4E16	1	1	0	8	70
9	GA951231-4E25	0	1	1	2	2
10	GA951231-4E26	0	1	0	2	2
11	GA961171-4E21	0	1	0	2,8	30
12	AR96077-10-1	0	1	0	8	30
13	ARTX5406	1	1	0	5	20
14	Z00-3538	4+	1	0	8	80
15	Z00-3554	0	1	0	8	50
16	GX02-138	3	1	0	8	30
17	VA01W-205	2	1	0	2	2
18	VA02W-713	9	1	2.5	8	90
19	P981233A1-10-12-1-1-4	9	1	5	8	100
20	P992060G1-1-9	0-6	1	0	8	20
21	P992133A2-1-2	0	1	0	2	2
22	TN601	7	1	3	8	100
23	TN604	6	1	0	8	70
24	NC02-1957	9	1	10	8	100
25	NC02-4518	9	1	5	8	100
26	MD00-72-5064	2	1	0	8	80
27	MD99-483-5158	9	1	4	8	90
28	LA98094BUB-58-5	0	1	0	2	2
29	LA9554 D68-3-2	0-3	1	0	5	10
30	FL91226A-X4	0	1	0	8	10
31	FL98174-D44	0	1	0	5	10
32	FL98031-D15-E4	1	1	0	8	20
33	SC013787	0	1	0.5	2	5
34	SC110329	9	1	0.5	8	90
35	G20915	2	1	0	8	20
36	G28146	1	1	0	8	30
37	G30623	1	1	0	2	2
38	G30204	1	1	0	8	20
39	B010973	0	1	0	8	50
40	B011260	1	1	0	8	10
41	B02-8486	0	1	0	8	20
42	B02-8483	0	1	0	8	10
43	APCK M00-3904-9	1	1	0	8	10
44	APCK M02-2152	1	1	0	8	60
45	APCK B02-8443	1	1	0	2	10
LOCATION MEANS:			1.1	0.7		39.1
GROWTH STAGE / DATE			June 6			June 28 / soft dough

POWDERY MILDEW

#20080026

Blacksburg
VA
Griffey
seedling / greenhouse

		PM 06
1	AGS 2000	12-
2	USG 3209	0
3	Pioneer Brand 26R61	0/TR3
4	McCormick	0
5	LA95135D54-2-3	12
6	VA02W-555	23
7	VA02W-370	23C
8	GA96693-4E16	01-
9	GA951231-4E25	4
10	GA951231-4E26	4
11	GA961171-4E21	34
12	AR96077-10-1	3
13	ARTX5406	4
14	Z00-3538	3
15	Z00-3554	0/TR3
16	GX02-138	12
17	VA01W-205	3
18	VA02W-713	12
19	P981233A1-10-12-1-1-4	4
20	P992060G1-1-9	23
21	P992133A2-1-2	23
22	TN601	4
23	TN604	4
24	NC02-1957	0/TR3
25	NC02-4518	0/TR3
26	MD00-72-5064	3
27	MD99-483-5158	01
28	LA98094BUB-58-5	12
29	LA9554-D68-3-2	3
30	FL91226A-X4	01
31	FL98174-D44	4
32	FL98031-D15-E4	12
33	SC013787	01
34	SC110329	2
35	G20915	3
36	G28146	23
37	G30623	3
38	G30204	23
39	B010973	3
40	B011260	12
41	B02-8486	3
42	B02-8483	34
43	APCK M00-3904-9	3
44	APCK M02-2152	3

		Pm gene	PM 06
Pm differential	Chancellor	Susc	4
Pm differential	Axminster	Pm 1	34
Pm differential	C68-15*7/CI 13836	Pm 1	3
Pm differential	Ulka	Pm 2	4
Pm differential	Asosan	Pm 3a	4
Pm differential	Chul	Pm 3b	01-
Pm differential	Sonora*	Pm 3c	3
Pm differential	C68-15*6/Sonora	Pm 3c	34
Pm differential	C68-15*6/Trit	Pm 3c	34
Pm differential	Michigan Amber	Pm 3f	4
Pm differential	Yuma	Pm 4a	4
Pm differential	C68-15*5/Yuma	Pm 4a	4/0
Pm differential	C68-15*5/Kapli	Pm 4a	4/TR0
Pm differential	Ronos	Pm 4b	4
Pm differential	Hope	Pm 5	34
Pm differential	C747*	Pm 6	4
Pm differential	Transec*	Pm 7	4
Pm differential	C68-15*7/Transec	Pm 7	4
Pm differential	Federation/Kavkaz	Pm 8	23
Pm differential	Amigo	Pm 17	N/A
Pm differential	C68-15*5//747/Amigo	Pm 17	N/A

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HESSIAN FLY

W. Lafayette
IN

#200800326

Cambron

		B	C	D	L
1	AGS 2000	8-3	0-17	0-14	1-15
2	USG 3209	16-0	0-14	0-12	0-15
3	Pioneer Brand 26R61	0-13	0-17	0-12	0-14
4	McCormick	0-14	0-21	0-18	0-15
5	LA95135D54-2-3	0-10	0-15	0-17	0-16
6	VA02W-555	0-11	0-14	0-15	0-18
7	VA02W-370	0-10	14-1	0-13	0-16
8	GA96693-4E16	0-17	0-16	0-14	0-14
9	GA951231-4E25	16-0	15-0	15-0	12-0
10	GA951231-4E26	16-0	16-0	15-0	18-0
11	GA961171-4E21	15-0	18-0	12-0	13-0
12	AR96077-10-1	0-15	0-14	0-15	0-18
13	ARTX5406	0-16	0-15	0-18	0-18
14	Z00-3538	11-0	16-0	0-12	13-3
15	Z00-3554	15-0	8-3	0-14	0-16
16	GX02-138	14-1	0-15	0-18	0-18
17	VA01W-205	0-16	0-14	0-11	0-16
18	VA02W-713	16-0	16-0	13-3	0-18
19	P981233A1-10-12-1-1-4	0-11	14-3	0-14	0-16
20	P992060G1-1-9	0-14	0-15	0-16	0-19
21	P992133A2-1-2	0-17	0-17	0-16	0-16
22	TN601	0-15	0-14	0-12	0-14
23	TN604	0-16	0-15	0-13	0-17
24	NC02-1957	0-15	8-7	0-15	0-16
25	NC02-4518	0-18	13-1	0-17	0-13
26	MD00-72-5064	0-15	0-16	0-15	0-16
27	MD99-483-5158	0-16	15-1	0-16	0-14
28	LA98094BUB-58-5	0-15	0-17	0-14	0-16
29	LA9554-D68-3-2	0-14	0-16	0-16	0-18
30	FL91226A-X4	0-16	0-17	0-17	0-19
31	FL98174-D44	0-14	0-16	0-13	0-17
32	FL98031-D15-E4	0-11	0-13	0-12	0-11
33	SC013787	0-14	0-12	0-14	0-9
34	SC110329	0-12	0-14	0-14	0-19
35	G20915	0-12	13-2	0-16	0-15
36	G28146	13-0	0-15	0-16	0-19
37	G30623	15-0	11-5	0-17	0-18
38	G30204	0-15	0-13	0-14	0-18
39	B010973	0-16	0-16	0-12	0-19
40	B011260	14-2	11-2	0-17	0-16
41	B02-8486	0-13	0-13	0-15	0-18
42	B02-8483	0-13	0-16	0-15	0-16
43	APCK M00-3904-9	0-12	0-16	0-14	0-16
44	APCK M02-2152	0-11	0-14	0-16	0-18
45	APCK B02-8443	0-12	0-19	0-17	0-19

LOCATION MEANS:
GROWTH STAGE / DATE

17

BAKING QUALITY

LAB NO.		**Interior Region**: Belle Mina, AL; Stuttgart, AR; Warsaw, VA	MILLING QUALITY SCORE		BAKING QUALITY SCORE		TEST WT. SCORE		SOFT. EQUIV. SCORE	
	STANDARD (#2503, Pioneer Brand 26R61)		69.3	C	52.2	D	72.5	B	64.6	C
2501	1	AGS 2000	79.7	B	68.2	C	63.4	C	78.7	B
2502	2	USG 3209	67.5	C	37.9	F	62.3	C	66.9	C
2503	3	Pioneer Brand 26R61	69.3	C	52.2	D	72.5	B	64.6	C
2504	4	McCormick	60.9	C	51.2	D	51.2	D	88.0	A
2505	5	LA95135D54-2-3	63.4	C	40.5	E	47.0	E	87.5	A
2506	6	VA02W-555	66.5	C	37.5	F	50.5	D	68.4	C
2507	7	VA02W-370	64.9	C	42.5	E	63.7	C	76.0	B
2508	8	GA96693-4E16	77.9	B	104.5	A	55.3	D	77.3	B
2509	9	GA951231-4E25	66.4	C	22.2	F	47.7	E	80.0	A
2510	10	GA951231-4E26	73.4	B	40.2	E	48.3	E	85.4	A
2511	11	GA961171-4E21	58.8	D	17.2	F	44.5	E	53.2	D
2512	12	AR96077-10-1	69.6	C	68.2	C	51.8	D	79.6	B
2513	13	ARTX5406	68.5	C	62.9	C	67.0	C	76.8	B
2514	14	Z00-3538	68.9	C	64.9	C	42.4	E	66.9	C
2515	15	Z00-3554	62.5	C	61.5	C	31.5	F	74.0	B
2516	16	GX02-138	62.6	C	67.9	C	28.8	F	90.1	A
2517	17	VA01W-205	73.8	B	87.2	A	61.3	C	90.1	A
2518	18	VA02W-713	62.3	C	70.5	B	62.1	C	87.1	A
2519	19	P981233A1-10-12-1-1-4	55.5	D	55.9	D	37.1	F	73.9	B
2520	20	P992060G1-1-9	56.9	D	56.2	D	8.8	F	85.1	A
2521	21	P992133A2-1-2	63.4	C	54.5	D	10.7	F	84.7	A
2522	22	TN601	74.0	B	59.9	D	64.6	C	72.3	B
2523	23	TN604	71.1	B	61.2	C	35.8	F	81.0	A
2524	24	NC02-1957	64.6	C	57.2	D	47.0	E	75.7	B
2525	25	NC02-4518	64.1	C	68.9	C	37.9	F	75.5	B
2526	26	MD00-72-5064	57.0	D	27.9	F	58.2	D	75.7	B
2527	27	MD99-483-5158	46.3	E	56.2	D	50.6	D	75.5	B
2528	28	LA98094BUB-58-5	66.6	C	62.5	C	55.6	D	69.2	C
2529	29	LA9554-D68-3-2	67.1	C	53.5	D	43.7	E	86.4	A
2530	30	FL91226A-X4	82.2	A	87.5	A	42.7	E	77.7	B
2531	31	FL98174-D44	66.7	C	52.2	D	52.6	D	82.4	A
2532	32	FL98031-D15-E4	74.7	B	68.5	C	61.3	C	66.3	C

#20080326

ADVANCED NURSERY EVALUATION FOR SOFT WHEAT MILLING AND BAKING QUALITY

LAB NO.		**Coastal Region**: Plains,GA; Cleveland, MS; Kinston, NC; Florence, SC	MILLING QUALITY SCORE		BAKING QUALITY SCORE		TEST WT. SCORE		SOFT. EQUIV. SCORE	
		STANDARD (#2548, Pioneer Brand 26R61)	69.3	C	52.2	D	72.5	B	64.6	C
2546	1	AGS 2000	80.8	A	67.2	C	69.8	C	78.5	B
2547	2	USG 3209	66.1	C	43.9	E	69.3	C	63.4	C
2548	3	Pioneer Brand 26R61	69.3	C	52.2	D	72.5	B	64.6	C
2549	4	McCormick	64.8	C	62.2	C	74.3	B	84.9	A
2550	5	LA95135D54-2-3	59.7	D	36.9	F	61.2	C	79.6	B
2551	6	VA02W-555	66.2	C	51.2	D	64.1	C	61.4	C
2552	7	VA02W-370	75.0	B	54.5	D	83.3	A	76.6	B
2553	8	GA96693-4E16	81.8	A	87.9	A	68.7	C	74.1	B
2554	9	GA951231-4E25	71.2	B	33.5	F	71.6	B	76.7	B
2555	10	GA951231-4E26	75.0	B	49.2	E	70.7	B	84.3	A
2556	11	GA961171-4E21	52.4	D	11.2	F	68.0	C	36.2	F
2557	12	AR96077-10-1	70.0	C	63.2	C	66.5	C	71.8	B
2558	13	ARTX5406	68.8	C	56.9	D	71.8	B	72.0	B
2559	14	Z00-3538	66.5	C	81.9	A	22.1	F	58.8	D
2560	15	Z00-3554	67.3	C	63.9	C	64.4	C	60.1	C
2561	16	GX02-138	60.0	D	63.2	C	40.2	E	77.3	B
2562	17	VA01W-205	76.5	B	97.2	A	75.5	B	82.7	A
2563	18	VA02W-713	67.7	C	60.2	C	73.2	B	82.7	A
2564	19	P981233A1-10-12-1-1-4	50.9	D	60.9	C	43.6	E	60.4	C
2565	20	P992060G1-1-9	72.5	B	70.2	B	41.6	E	80.9	A
2566	21	P992133A2-1-2	69.2	C	67.9	C	37.6	F	75.9	B
2567	22	TN601	75.4	B	73.5	B	35.2	F	71.0	B
2568	23	TN604	69.1	C	72.5	B	53.2	D	75.7	B
2569	24	NC02-1957	64.8	C	54.5	D	65.5	C	65.2	C
2570	25	NC02-4518	65.6	C	63.2	C	54.0	D	67.9	C
2571	26	MD00-72-5064	63.1	C	57.2	D	73.2	B	69.6	C
2572	27	MD99-483-5158	47.9	E	46.2	E	71.3	B	63.3	C
2573	28	LA98094BUB-58-5	68.9	C	57.9	D	70.1	B	61.4	C
2574	29	LA9554-D68-3-2	72.6	B	63.5	C	59.6	D	84.4	A
2575	30	FL91226A-X4	83.3	A	78.2	B	54.6	D	72.3	B
2576	31	FL98174-D44	69.7	C	46.2	E	73.9	B	75.6	B
2577	32	FL98031-D15-E4	67.5	C	83.2	A	75.2	B	53.0	D
2578	33	SC013787	58.4	D	43.5	E	64.5	C	61.8	C
2579	34	SC110329	85.7	A	67.2	C	82.4	A	65.8	C
2580	35	G20915	79.0	B	76.9	B	73.8	B	72.7	B
2581	36	G28146	74.4	B	86.9	A	44.6	E	86.9	A
2582	37	G30623	68.4	C	63.9	C	43.9	E	80.5	A
2583	38	G30204	80.3	A	91.5	A	70.7	B	68.3	C
2584	39	B010973	62.0	C	48.5	E	64.8	C	56.9	D
2585	40	B011260	73.9	B	74.5	B	62.2	C	62.3	C
2586	41	B02-8486	77.7	B	87.9	A	74.8	B	75.8	B
2587	42	B02-8483	70.0	C	83.5	A	63.1	C	79.9	B
2588	43	APCK M00-3904-9	58.1	D	49.5	E	56.4	D	58.1	D
2589	44	APCK M02-2152	58.1	D	48.9	E	46.2	E	70.3	B
2590	45	APCK B02-8443	63.8	C	75.5	B	61.1	C	78.5	B

ATTACHMENT I

#20080032 6

APPLICATION FOR APPROVAL OF X CULTIVARS _ ASSOCIATE CULTIVARS

(Please check appropriate type of application)

1. Crop: Wheat

2. Experimental no. or name: GA 96693-4E16

3. Pedigree and history: GA 96693-4E16 is 88151 / Hickory // AGS 2000. The final cross was made in the fall of 1996. Individual spike selections were made in the F2 to F5 generations at Plains, GA. The pedigree method of breeding was used to advance the segregating populations. In 2002, a headrow was harvested for preliminary evaluations. Agronomic evaluations were conducted from 2005 to 2007 in the Small Grain State Performance Trials for Georgia. It was evaluated in 2006 in the Uniform Southern Wheat Nursery.

4. Description: GA 96693-4E16 is an early-medium maturing, good test weight, white chaffed, medium height soft red winter wheat line. Its maturity averages about 3 days earlier than AGS 2000. It has good resistant to races of leaf rust and stripe rust in Georgia.

5. Station(s) where developed: Griffin Campus

6. Participating scientist(s): Jerry Johnson and G. David Buntin

7. In what respect is the new cultivar superior to the cultivar now in use? or reasons for proposing release as an associate cultivar.

It is better than AGS 2000 and other checks for grain yield in late planting (Table 6).

It has better leaf and stripe rust resistance than AGS 2000 (Tables 3 and 8).

In the Uniform Southern Trial during 2006, it ranked number 1 out of 45 entries for grain yield over 21 locations and yielded equal or better than the checks (AGS 2000 and PIO 26R61) (Table 7).

8. Method of propagation: Seed

9. Amount of breeder seed stocks available (if applicable): 20 bu.

10. Amount of foundation seed stocks available (if applicable): 1000 bushel in summer of 2007.

11. Amount of cutting or bud material available for vegetative propagated material for nursery distribution (if applicable):

20

12. Is there likely to be unusual difficulty encountered in the production of any class of seed stocks? Explain. No

13. Three suggested names for the cultivar: GA 96693-4E16

14. Name approved by plant cultivar and germplasm release committee: GA 96693-4E16

15. Form of intellectual property protection: Plant Variety Protection

16. Is a royalty assessment recommended: X Yes __ No

GA 96693-4E16

#200800326

RECOMMENDED BY:

A. _____
Originating Scientist

B. _____
Department Head

C. _____
Assistant Dean

D. _____
Chairperson, GAES Plant Cultivar and Germplasm Release Committee

E. _____
Associate Dean for Research

APPROVED:

_____
Dean and Director
College of Agricultural & Environmental Sciences

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#20080026

Table 1. Average Performance of GA 96693-4E16 and Checks in Elite Nursery Multilocations*, 2004.

Entry	Yield bu/A	Test Wt. lbs/bu	Head Date Julian	Height inches
GA 96693-4E16	89a	60a	93a	35b
AGS 2000	88a	60a	94a	35ab
PIO 26R61	81b	60a	96a	37a

* Plains, Griffin, Calhoun, GA; Quincy, FL; Belle Mina, AL; Stoneville, MS

Table 2. Average Performance of GA 96693-4E16 and Checks in Multi-State* Performance Trials (GAWN), 2005.

Entry	Yield bu/A	Test Wt. lbs/bu	Head Date Julian	Height inches
GA 96693-4E16	95a	60a	100ab	37a
AGS 2000	79c	60a	102b	37a
USG 3209	86b	59a	105a	35b

*Florida, Georgia, North Carolina, Louisiana, Virginia

Table 3. Average Agronomic Traits of GA 96693-4E16 and Checks in Multi-State* Performance Trials (GAWN), 2005.

Entry	Lodging 0-9	P. Mildew 0-9	Leaf Rust 0-9	Stripe Rust 0-9
GA 96693-4E16	3.3a	1.2a	0.5b	1.3c
AGS 2000	1.4a	3.1a	1.8a	6.8a
USG 3209	0.9a	2.3a	2.5a	2.1b

*Florida, Georgia, North Carolina, Louisiana, Virginia

Table 4. Average Performance of GA 96693-4E16 and Checks in Georgia's State Performance Trials in Georgia, 2-Yr Ave, 2005-2006.

Entry	Yield bu/A	Test Wt. lbs/bu	Head Date Julian	Height inches
GA 96693-4E16	85.0a	59a	92b	39b
AGS 2000	84.4a	59a	94a	41a
PIO 26R61	80.0b	59a	96a	41a

Table 5. Average Performance of GA 96693-4E16 and Checks in Georgia's State Performance Trials in Georgia, 2-Yr Ave, 2006-2007, South GA.*.

Entry	Yield bu/A	Test Wt. lbs/bu	Head Date Julian	Height inches
GA 96693-4E16	83.5a	61a	85c	37a
AGS 2000	76.6b	60a	88b	38a
PIO 26R61	78.1b	61a	89a	39a

* Plains, Tifton, Midville

Table 6. LATE PLANTING*: Average Performance of GA 96693-4E16 and Checks in Georgia's State Performance Trials in Georgia, 2-Yr Ave, 2006-2007, South GA*.

Entry	Yield bu/A	Test Wt. lbs/bu	Head Date Julian	Height Inches
GA 96693-4E16	73.2a	61a	94b	36b
AGS 2000	59.9b	62a	100a	37ab
PIO 26R61	60.8b	61a	101a	37ab
AGS 2060	62.8b	62a	96b	39a

* Plains, Tifton, Midville

Table 7. Average Performance of GA 96693-4E16 and Checks in Uniform Southern Soft Red Winter Nursery, 2006.

Entry	Yield bu/A	Test Wt. lbs/bu	Head Date Julian	Height inches
GA 96693-4E16	85.0a	58a	111b	34b
AGS 2000	83.8a	59a	113a	37a
PIO 26R61	76.3b	59a	114a	37a

21 locations in the Southern Region

Table 8. Average Agronomic Traits of GA 96693-4E16 and Checks in Uniform Southern Soft Red Winter Nursery, 2006.

Entry	Leaf Rust 0-9	Stripe Rust 0-9	P. Mildew 0-9
GA 96693-4E16	0.4a	2.3b	1.3a
AGS 2000	1.4a	4.5a	2.6a
PIO 26R61	2.0a	0.4b	1.6a

21 locations in the Southern Region

Table 9. Evaluation of lines to biotypes of Hessian Fly, USDA-ARS Lab, Purdue University, 2006.

Entry	Biotype B R:S	Biotype D R:S	Biotype E R:S	Biotype L R:S	Field Rating* %
GA 96693-4E16	0-17	0-16	0-14	0-14	13a
AGS 2000	8-3	0-17	0-14	1-15	5b
PIO 26R61	0-13	0-12	0-17	0-14	2b

*Griffin, GA

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
University of Georgia Research Foundation, Inc.	GA 96693-4E16	AGS2020
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(Include area code)*	**6. FAX** *(Include area code)*
627 Boyd Graduate Studies Research Center Athens, GA 30602-7411	(706) 542-1404	(706) 542-3837
	7. PVPO NUMBER 200800326	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** [X] **YES** [ ] **NO**

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** [X] **YES** [ ] **NO**

10. Is the applicant the original owner? [X] **YES** [ ] **NO** **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
[ ] **YES** [ ] **NO** **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
[ ] **YES** [ ] **NO** **If no, give name of country**

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

See attachment.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

Exhibit E

#200800326

11. Additional Explanation of Ownership

AGS 2020

The variety for which plant variety protection is hereby sought is owned by the University of Georgia Research Foundation, Inc. (UGARF).

Ownership by UGARF in the variety for which plant variety protection is hereby sought is based on the Invention Administration Agreement of April 1, 1979, which was superseded by the Intellectual Property Administration Agreement of November 8, 1995, between UGARF and the Board of Regents of the University System of Georgia, in which the Board of Regents assigned to The University of Georgia Research Foundation, Inc. all rights in intellectual property developed or created by employees at The University of Georgia, one of the universities of the University System of Georgia. Rights of novel plant varieties developed at The University of Georgia, including 'AGS 2020', are covered by said Administration Agreement. As employees of The University of Georgia, Jerry W. Johnson, James Buck, and G. David Buntin have assigned their rights in 'AGS 2020' to UGARF.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S)	ADDRESS *(Street and No. or RD No., City, State, and Zip Code and Country)*	TEMPORARY OR EXPERIMENTAL DESIGNATION
University of Georgia Research Foundation, Inc.	627 Boyd Graduate Studies Research Ctr. Athens, GA 30602-7411	GA 96693-4E16
		VARIETY NAME AGS2020
NAME OF OWNER REPRESENTATIVE (S)	**ADDRESS** *(Street and No. or RD No., City, State, and Zip Code and Country)*	**FOR OFFICIAL USE ONLY**
Director, Technology Commercialization Office	University of Georgia Research Foundation, Inc. 627 Boyd Graduate Studies Research Ctr. Athens, GA 30602-7411	**PVPO NUMBER** #200800326

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Signature

7-14-08
Date